



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,970	12/29/2003	Stephen Lewis	120-290	9914
34845	7590	01/11/2005	EXAMINER	
STEUBING AND MCGUINNESS & MANARAS LLP			KIANNI, KAVEH C	
125 NAGOG PARK			ART UNIT	
ACTON, MA 01720			PAPER NUMBER	
			2883	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/747,970

Applicant(s)

LEWIS ET AL.

Examiner

K. Cyrus Kianni

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 3,4 and 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1,2 and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 3,4 and 11-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

- Applicant's election without traverse of claims 1-2 and 5-10 in an interview with Mr. McGuinness on 12/29/04 is acknowledged and the restriction summary is as follows:

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to N-channel optical repeater including an amplifier and an optical repeater for forwarding the wavelengths of N channels as responsive to a gain behavior of the amplifier, classified in class 385, subclass 15, 39.
 - II. Claims -19, drawn to a method of assigning wavelengths to channels for communication on an optical network including the steps of mapping channels for communication of optical signals only to wavelengths at which the component has desired gain characteristic, classified in class 385, subclass 27.
 - III. Claims 20-24, drawn to an optical transportation system including a transmitter and means for selecting the selected wavelengths, classified in class 385, subclass 14.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially

Art Unit: 2883

different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the optical repeater can be used as an add/drop of specified wavelengths in a WDM communication module rather than process of using a product for mere assigning of wavelengths to channels as claimed in invention II.

3. Because these inventions are distinct for the reasons given above and the search required for Group I and/or III is not required for Group II, restriction for examination purposes as indicated is proper.

4. This application contains claims directed to the following patentably distinct species of the claimed invention:

(i) The N-channel optical repeater of claim 1, wherein the amplifier is an Erbium Doped Fiber Amplifier (EDFA).

(ii) The N-channel optical repeater of claim 1, wherein the amplifier is a Linear Optical Amplifier (LOA).

(iii) The N-channel optical repeater of claim 1, wherein the amplifier is a silicon optical amplifier (SOA)..

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

Art Unit: 2883

is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. During a telephone conversation with Mr. McGuinness on 12/29/04 a provisional election was made without traverse to prosecute the invention of Group (I) including species (i), claims 1-2 and 5-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3-4 and 11-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

1. Claims 1 and 24 are objected to because of the following informalities:

Art Unit: 2883

(A) in the last line of claim 1, a modifier (i.e., 'of') before 'a gain' is missing

from the claim limitations. Appropriate correction is required.

(B) The labeling/numbering of claim '24' is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1-2, 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakui et al. (kakui) (US 2003/0210844).

Regarding claims 1 and 7, Kakui teaches an N-channel optical repeater (shown in at least fig. 14; see parag. 0078-0079) comprising:
an amplifier 22 for amplifying an input signal responsive to at least one of the N channels (see parag. 0079), wherein the wavelengths of N channels forwarded by the optical repeater are selected responsive a gain behavior of the amplifier (see fig. 15 and parag. 0083).

However, Kakui does not specifically teach wherein the above responsive to at least one of the N channels is 'tuned' to at least one of the N-channels and that the channels are spaced at 50 Ghz intervals nevertheless, Kakui teaching includes wherein the amplifier 22 selectively responsive to N-channels input to the amplifier as shown in figure 1 and that Kakui's teaching further includes wherein frequencies of the N-channels are spaced at 100Ghz internals (see parag. 0084). Thus, it is obvious/well-known to those of ordinary skill in the art when the invention was made that the above selective response of the amplifier to the N-channels is analogous/equivalent to 'tuning' of the amplifier to the N-channels and that it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Kakui's number of N-channel in given band-frequencies (i.e., c-band) as to be spaced at 50Ghz, since such channeling is conventional and that the specification by the applicant suggest that channel spacing 'may also be used' at 50 Ghz, since such modification would provide gain flattening amplification with very large positive gain inclination (see col. 1, parag. 0010-0011).

Regarding claims 2, 6 and 8-10, Kakui further teaches wherein the amplifier is an Erbium Doped Fiber Amplifier (EDFA) (see parag. 0083); wherein the N channels comprise wavelengths allocated to at least one communication band (see parag. 0083); wherein frequencies of the N-channels are spaced at 100Ghz internals (see parag. 0084); wherein the communication band is C-band (see at least parag. 0049); wherein

Art Unit: 2883

the communication band is L-band (see at least parag. 0063); wherein the at least one communication band comprises C-band and L-band (see at least parag. 0063).

Citation of Relevant Prior Art

4. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Trisnadi et al. 6782205 teaches channel spacing of 50Ghz

Trisnadi et al. 20020196492 teaches channel spacing of 50Ghz

Dennis et al. 20040109655

Sakano et al. 20010026384

Islam 6833946

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Art Unit: 2883

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to be 'K. Cyrus Kianni', followed by a long horizontal line extending to the right.

K. Cyrus Kianni
Patent Examiner
Group Art Unit 2883

January 6, 2005